



RADIO AMATEUR News & Views

The Official Journal of the Radio Amateurs of Northern Vermont

November • 2013

An ARRL Special Service Club

Vol. 23 • No. 11

NEXT MEETING: NOVEMBER 12

“A RADIO TOWER JOURNEY”

IN LAST MONTH'S *NEWS & VIEWS* Gene WIEBR wrote an article about putting up his first tower. There was interest among members about his tower and some of the challenges he encountered, so this month Gene was kind enough to offer to come talk about his journey and share some of what he has learned along the way. This should prove to be very enlightening, especially if you are considering a tower installation yourself!



ELECTION BALLOTS

Find 'em, fill 'em, vote 'em—Ballots may be emailed or dropped in the box at the November 12 meeting. If you can't be at the meeting, you can email your vote, but there are a couple of caveats: (1) Be sure you include the special ballot serial number found on the ballot in your copy of this newsletter; (2) email your ballot by Noon on November 12 to ranv@sover.net.



INVERTED-L ANTENNA FOR THE LOW HF BANDS

Zach K1ZK

FALL IS UPON US AND THAT GOT ME THINKING that it was time to devote some attention to improving my antennas for the bands below 20 meters. I am convinced that the best way for me to improve my station is to put my effort into antennas, and that's what I've been doing, with remarkable results. Kirk Kleinschmidt, NT0Z, made me a believer with his article entitled "HF Amplifiers Versus Antennas."

Why focus on the low bands now? For me, there were several reasons. My antenna system for 10m through 20m is in reasonably good shape, and I've been happy with its performance. But until recently I didn't have a good antenna for DX on the bands below 20m. Fall is a great time to focus on antennas for our lower bands, because the sun is coming up later and going down earlier, so for the next few months it's basically going to be dark when I get home from work—not ideal for most of the higher HF bands, but great for the low bands! With colder weather comes fewer electrical storms, and better conditions on the 160m band. I've always wanted to try "top band," so this was my opportunity!

After a fair amount of research, I decided to build an inverted-L antenna. This antenna has a number of virtues, and even makes W4RNL's list of "Top Five Backyard Multi-Band Wire HF Antennas." An inverted-L has a vertical length of wire that has a 90-degree bend in it at the top of the support, with the rest of the length traveling horizontally (it looks like an inverted letter "L," hence the name). Since part of the radiator is vertical, this antenna gets you a low take-off angle—a feat you can't easily pull off on 80m or 160m with a dipole because it's really hard to build a support that's 131 or 262 feet (half-wavelengths on 80m and 160m) high! You can make your radiator a quarter wave on the lowest band

Continued, pg 2

SECRETARY'S REPORT

Kathi K1WAL, SECRETARY

Our October meeting began with club business, beginning with an urgent need for a Newsletter Editor!

- Recap of the Maker's Faire. The Faire was extended to two days this year and the second day was a bit slow, but a good time was had by all and no one got stuck in the mud. Propagation wasn't great but it was a good learning point. Jeff N1YK had a propagation demo and some PSK 31 was run.
- We voted on \$150 for food for the Holiday Party which Mitch W1SJ said he never exceeds.
- A discussion was held on some future meeting topics including: the 10-10 Club, the Quarter Century Wireless Association, the author of *Before There Was Wireless* who Carl AB1DD knows, a boat anchor night, trouble shooting the different parts of a radio, and creating a remote control station.
- We also talked about the club doing more activity on HF—bring your ideas to the next meeting!!
- Nominations for club officers. Surprisingly all the incumbents were nominated and seconded!
- Mitch W1SJ provided an informative presentation beginning with IRLP, the Internet Radio Linking Project.

Presentation: EchoLink & IRLP

IRLP was designed by David Cameron VE7LTD in 1996. He started with an iPhone and made his first connection voice over the internet. The iPhone turned out to be too unstable so Dave turned to LINUX as an operating system and Speak Freely, a VoIP client/server package that transmits live audio over the internet. He was careful to design safeguards into his software to reject calls from non-hams. There are two common modes for an IRLP connection: direct one-to-one, or one-to-many via a reflector. For details on how it works check out irlp.net online.

Our Bolton repeater WB1GQR has been running IRLP for the last 14 years, the node is 7230. To make a call you will need to look up the receiving node at status.irpl.net—don't forget to consider time zones! Make sure you are full quieting into the repeater. Announce your callsign on the repeater, dial the node number, key your microphone, and wait 1 second. It is important to remember to leave a pause after pressing the PTT button, as well as between transmissions. To end a call dial "73". The node will drop out if inactive for 5 minutes.

Echolink was designed by Jonathon Taylor K1FRD. It was inspired by IRLP and VoIP. With Echolink you don't need a radio to communicate with other hams. It is a Windows-based program that can be downloaded to your computer and is available as an App for mobile devices. The program can be found at

Continued, pg 2

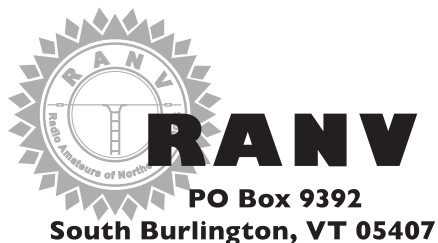
Inverted-L cont.

you want to use (I made mine 133 feet for the bottom part of 160m), which basically eliminates the need for a matching network at the feedpoint, but keep in mind that a quarter wave on 160m will be difficult to load on 80m. You can also make a non-resonant radiator—many people build 165-foot inverted-Ls so they can load them up on 160m and 80m. My "L" tunes up great on 160m, 60m, 40m, and 30m.

Putting up the radiator is no more difficult than putting up a dipole. However, the other half of an inverted-L antenna is a radial field located at the bottom of the vertical length of the radiator. Yes, you need radials for this antenna. The more the better. Don't stop reading now though—installing radials is not so bad, and it really is worth it because you'll have a great low-band antenna when you're done. I got a DX Engineering radial plate, bought a bunch of relatively cheap wire from the WireMan, and I was good to go! Fall and spring are good times for installing radials, since you're not going to be chopping them up with your lawnmower. You can staple them to your lawn with garden staples, and after some growing time, the grass

will hold the radial firmly in place. And you can add radials at whatever pace suits you. The more you add, the better your antenna will perform. The rate of improvement with number of radials slows after about 30 radials or so, though, so you get the most bang for your buck with the first radials you put down.

I feed my "L" with 100 feet of RG-58 coax. Feedline losses are reduced at the lower frequencies, so I didn't put too much effort or money into the feedline. At the feedpoint of the antenna, the center conductor goes to the radiator, and the shield goes to the radial plate and the radial field. I built my inverted-L in a day, and have been having a great time with it over the last few weeks. I've already worked some DX stations in Europe on 160m, so I'd call it a success! See you on the low bands this winter!



Secretary cont.

echolink.org for download. There is other useful information on the site as well.

WB1GQR has Echolink in addition to IRLP. In fact, it is one of the few repeaters that has both Echolink and IRLP as independent systems! Echolink has been on for over 10 years, on node 97406. Making a call is similar to IRLP except dial "A," followed by the node number, listen for the "Connecting to ..." message. To end a call dial "#". The Bolton Echolink system has a one minute timeout.

Information about the WB1GQR repeater and rules for IRLP and Echolink are on the RANV website at www.RANV.org.

There are ongoing discussions regarding IRLP and Echolink as to "Is it ham radio." Opinions may vary, but in the long run it promotes ham radio and YOU'RE MAKING CONTACTS!



NEWS & VIEWS

November • 2013

INSIDE

- Secretary: October
- Election Ballot
- Inverted-L Antenna

Upcoming, Notices, & Misc

- RANV: Dec Meeting—12/10
- Steering Wheel: 3rd Tues, 6:30-8:30; Ninety-Nine, Taft Corners
- Dues due? Pay online at www.ranv.org/ranvpay.html
- VT Ham Radio Calendar www.vthrc.net

NEXT MEETING

TUESDAY • NOVEMBER 12 • 7:00PM

O'Brien Civic Center • Patchen Rd
South Burlington

**"Radio Tower
Journey"**